AMENDMENTS TO THE CLAIMS

Claim 1 (currently amended) A sensor network comprising a plurality of network elements including at least one node configured to be coupled among a monitored environment ~~and at least one client computer~~, wherein ~~functions of~~ the at least one node is further configured to be ~~are~~ remotely controllable using ~~the~~ at least one client computer [[,]] and to provide ~~wherein the at least one node provides~~ node information including node resource cost and message priority to one or more other nodes of the plurality of network elements, and wherein the at least one node is further configured to distribute data processing, other than processing for topology learning or the addition of one or more new nodes to the sensor network, ~~is distributed through the sensor network~~ to one or more of the plurality of network elements~~, including at least one of the plurality of network elements other than the at least one client computer~~ , ~~in~~ response to the node information.

Claim 2 (original) The sensor network of claim 1, wherein the at least one node includes sensing, processing, communications, and storage devices supporting a plurality of processing and protocol layers.

Claim 3 (original) The sensor network of claim 1, wherein the at least one node supports at least one communication mode selected from a group consisting of wireless communications, wired communications, and hybrid wired and wireless communications.

Claim 4 (original) The sensor network of claim 1, wherein the at least one node is coupled to the at least one client computer through the plurality of network elements, wherein the plurality of network elements includes at least one gateway, at least one server, and at least one network.

Claim 5 (original) The sensor network of claim 4, wherein the at least one gateway comprises at least one node.

Claim 6 (currently amended) The sensor network of claim 4, wherein the at least one gateway is configured to perform ~~performs~~ at least one function selected from a group consisting of protocol translation, sensor network management, management of transmissions from a remote user, and to interface ~~interfacing~~ with at least one communication physical layer including wired local area network, packet radio, microwave, optical, wireline telephony, cellular telephony, and satellite telephony.

Claim 7 (original) The sensor network of claim 4, wherein the at least one network includes wired networks, wireless networks, and hybrid wired and wireless networks.

Claim 8 (original) The sensor network of claim 4, wherein the at least one network comprises at least one network selected from a group comprising the Internet, local area networks, wide area networks, metropolitan area networks, and information service stations.

Claim 9 (original) The sensor network of claim 8, wherein internetworking among the plurality of network elements provides remote accessibility using World Wide Web-based tools for data, code, management, and security functions, wherein data includes signals or images, wherein

code includes signal processing, decision support, and database elements, and wherein management includes operation of the at least one node and the sensor network.

Claim 10 (original) The sensor network of claim 4, wherein the at least one node is coupled to the at least one gateway using the plurality of network elements, wherein the plurality of network elements further includes at least one device selected from a group consisting of repeaters and interrogators.

Claim 11 (original) The sensor network of claim 1, wherein at least one local user is coupled to the at least one node.

Claim 12 (original) The sensor network of claim 1, wherein at least one redundant information pathway is established among the plurality of network elements.

Claim 13 (original) The sensor network of claim 1, wherein the plurality of network elements comprise a plurality of network element sets, wherein the plurality of network element sets are layered.

Claim 14 (original) The sensor network of claim 1, wherein the at least one node comprises a plurality of node types, wherein the plurality of node types includes at least one node of a first type and at least one node of a second type, wherein a first network having a first node density is assembled using the at least one node of a first type, wherein a second network having a second node density is assembled using the at least one node of a second type, wherein the second network is overlayed onto the first network.

Claim 15 (original) The sensor network of claim 1, wherein code and data anticipated for future use are predistributed through the sensor network using low priority messages, wherein the code and the data are downloadable from at least one location selected from a group consisting of storage devices of the plurality of network elements, and storage devices outside the sensor network.

Claim 16 (currently amended) The sensor network of claim 1, wherein the plurality of network elements is configured to automatically organize, and wherein the automatic organizing comprises automatically controlling data transfer, processing, and storage within the network.

Claim 17 (original) The sensor network of claim 1, wherein a plurality of levels of synchronization are supported among different subsets of the plurality of network elements, wherein a first level of synchronization is supported among a first subset of the plurality of network elements, wherein a second level of synchronization is supported among a second subset of the plurality of network elements.

Claim 18 (original) The sensor network of claim 1, wherein data processing is controlled using at least one processing hierarchy, the at least one processing hierarchy controlling at least one event selected from a group consisting of data classifications, data transfers, data queuing, data combining, processing locations, communications among the plurality of network elements.

Claim 19 (original) The sensor network of claim 1, wherein data is transferred using message packets, wherein the message packets are aggregated into compact forms in the at least one node using message aggregation protocols, wherein the message aggregation protocols are adaptive to

at least one feature selected from a group consisting of data type, node density, message priority, and available energy.

Claim 20 (original) The sensor network of claim 19, wherein the message packets include decoy message packets, wherein information to be transferred is impressed on random message packets to provide communication privacy.

Claim 21 (original) The sensor network of claim 1, wherein the functions of the at least one node include data acquisition, data processing, communication, data routing, data security, programming, and node operation.

Claim 22 (original) The sensor network of claim 1, wherein the at least one node includes at least one preprocessor coupled to at least one processor and a plurality of application programming interfaces (APIs), wherein the plurality of APIs are coupled to control at least one device selected from a group consisting of sensors, actuators, communications devices, signal processors, information storage devices, node controllers, and power supply devices, wherein the plurality of APIs support remote reprogramming and control of the at least one device.

Claim 23 (original) The sensor network of claim 22, wherein the plurality of APIs are layered.

Claim 24 (original) The sensor network of claim 22, wherein the plurality of APIs enable distributed resource management by providing network resource information and message priority information to the plurality of network elements.

Claim 25 (original) The sensor network of claim 24, wherein information transfer among the plurality of network elements is controlled using a synchronism hierarchy established in response to the resource information and message priority information.

Claim 26 (original) The sensor network of claim 22, wherein the at least one preprocessor performs at least one function selected from a group consisting of data acquisition, alert functions, and controlling at least one operating state of the at least one node.

Claim 27 (currently amended) The sensor network of claim 22, wherein the at least one processor is configured to perform ~~performs~~ at least one function selected from a group consisting of signal identification, database management, adaptation, reconfiguration, and security.

Claim 28 (currently amended) The sensor network of claim 1, wherein the at least one node is configured to control ~~controls~~ data processing and data transmission in response to a decision probability of a detected event.

Claim 29 (original) The sensor network of claim 1, wherein the at least one node includes at least one sensor selected from a group consisting of seismic, acoustic, infrared, thermal, force, vibration, pressure, humidity, current, voltage, magnetic, biological, chemical, acceleration, and visible light sensors.

Claim 30 (original) The sensor network of claim 29, wherein the at least one sensor is external to the at least one node.

Claim 31 (original) The sensor network of claim 29, wherein data gathered by the at least one sensor is processed and a predetermined identifying code representing the data is propagated through the network, wherein a high priority message containing information regarding a high priority event is represented by a high priority message code, and wherein receipt of the high priority message code by the at least one node invokes a priority protocol that causes message packets to be broadcast to nodes adjacent to a path that will inhibit messaging from nodes not engaged in conveying the information regarding the high priority event.

Claim 32 (original) The sensor network of claim 1, wherein the plurality of network elements are self-assembling, wherein search and acquisition modes of the at least one node search for participating ones of the plurality of network elements, wherein a determination is made whether each of the participating ones of the plurality of network elements are permitted to join the sensor network using a message hierarchy, wherein the sensor network is surveyed at random intervals for new nodes and missing nodes.

Claim 33 (canceled)

Claim 34 (previously presented) The sensor network of claim 1, wherein a start node is selected as a base node, wherein the base node communicates an assembly packet throughout the sensor network, wherein information of the assembly packet alternates with each successive communication between directing a node to become a base node of a particular cluster number and directing a node to become a remote node of a particular cluster number, wherein the particular cluster number is incrementally changed with each successive communication of the assembly packet.

Claim 35 (previously presented) The sensor network of claim 1, wherein at least one start node is selected as at least one base node, wherein the at least one base node communicates an assembly packet throughout the sensor network, wherein information of the assembly packet alternates with each successive communication between directing at least one node to become at least one base node of a particular cluster number and directing at least one other node to become at least one remote node of a particular cluster number, wherein the particular cluster number is incrementally changed with each successive communication of the assembly packet.

Claim 36 (previously presented) The sensor network of claim 1, wherein synchronism is established among the plurality of network elements using assembly packets.

Claim 37 (original) The sensor network of claim 1, wherein the sensor network is managed as a distributed and active database using a distributed resource management protocol, wherein the plurality of network elements are reused among different applications, wherein the network elements are used in multiple classes of applications.

Claim 38 (original) The sensor network of claim 1, further comprising at least one database, wherein the at least one database includes at least one storage device selected from a group consisting of storage devices coupled to at least one of the plurality of network elements and storage devices of the at least one node.

Claim 39 (original) The sensor network of claim 38, wherein cooperative sensing uses information of the at least one database to provide non-local event correlation.

Claim 40 (original) The sensor network of claim 38, wherein the at least one database comprises data-driven alerting methods that recognize conditions on user-defined data relationships including coincidence in signal arrival, node power status, and network communication status.

Claim 41 (original) The sensor network of claim 38, wherein the at least one database is implemented in small foot print databases at a level of the at least one node and in standard query language (SQL) database systems at a level of at least one server.

Claim 42 (currently amended) The sensor network of claim 1, wherein data is collected by the at least one node, wherein at least one operation is performed on the data in response to parameters established by a user input, the at least one operation selected from a group consisting of energy detection, routing, processing, storing, and fusing.

Claim 43 (original) The sensor network of claim 42, wherein the routing, processing, storing, and fusing are performed in response to at least one result of the energy detection.

Claim 44 (original) The sensor network of claim 42, wherein routing comprises selecting at least one data type for routing, selecting at least one of the plurality of network elements to which to route the selected data, selecting at least one route to the selected at least one of the plurality of network elements, and routing the selected at least one data type to the selected at least one of the plurality of network elements.

Claim 45 (original) The sensor network of claim 44, wherein routing comprises transmitting data in at least one message as a compact entry in a codebook.

Claim 46 (original) The sensor network of claim 42, wherein processing comprises selecting at least one data type for processing, selecting at least one processing type, selecting at least one of the plurality of network elements to perform the selected at least one processing type, and transferring the selected at least one data type to the selected at least one of the plurality of network elements using at least one route through the sensor network.

Claim 47 (original) The sensor network of claim 46, wherein the selection of at least one processing type comprises determining at least one probability associated with a detected event and selecting at least one processing type in response to the at least one probability.

Claim 48 (original) The sensor network of claim 46, wherein data processed in a plurality of nodes is aggregated for further processing by other nodes.

Claim 49 (original) The sensor network of claim 46, wherein data processed by the at least one node is aggregated for reporting to at least one user.

Claim 50 (original) The sensor network of claim 42, wherein storing comprises selecting at least one data type for storage, selecting at least one storage type, selecting at least one of the plurality of network elements to perform the selected at least one storage type, and transferring the selected at least one data type to the selected at least one of the plurality of network elements using at least one route through the sensor network.

Claim 51 (original) The sensor network of claim 42, wherein fusing comprises a first node transmitting at least one query request to at least one other node, wherein the first node collects

data from the at least one other node in response to the at least one query request and processes the collected data.

Claim 52 (original) The sensor network of claim 1, wherein the at least one node comprises a plurality of nodes with each of the plurality of nodes including at least one bi-static sensor and a generator for producing at least one energy beam that is radiated from the plurality of nodes, wherein the at least one energy beam comprises a combined probe beam and signal code for beam intensity control and propagation measurement, wherein the at least one energy beam is modulated in time to provide an identifying code corresponding to a source node, wherein the at least one energy beam is at least one type selected from a group comprising infrared, visible, acoustic, and microwave beams.

Claim 53 (original) The sensor network of claim 1, wherein at least one of the plurality of network elements determines a position of the at least one node.

Claim 54 (original) The sensor network of claim 1, wherein software is transferable among the plurality of network elements, wherein the software transfer is remotely controllable.

Claim 55 (original) The sensor network of claim 1, wherein at least one public key security protocol is used to protect communications.

Claim 56 (original) The sensor network of claim 1, wherein the at least one node includes a Global Positioning System device providing location and time information.

Claim 57 (original) The sensor network of claim 1, wherein the at least one node further comprises at least one communication modem.

Claim 58 (original) The sensor network of claim 1, wherein communications among the plurality of network elements comprise multihop communications.

Claim 59 (original) The sensor network of claim 1, wherein the monitored environment is at least one environment selected from a group consisting of electronic equipment, mechanical equipment, electro-mechanical equipment, a facility, a structure, a material, a transportation system, a vehicle, an outdoor area, an indoor area, a biological system, a person, and an animal.

Claim 60 (original) The sensor network of claim 1, wherein the plurality of network elements support short range and long range communications.

Claim 61 (original) The sensor network of claim 1, wherein the at least one node is contained in a sealed and waterproof system.

Claim 62 (original) The sensor network of claim 1, wherein the at least one node comprises a plurality of software modules, wherein a plurality of interfaces support couplings among the plurality of software modules, wherein the plurality of interfaces are reused among the plurality of software modules by changing at least one inter-module coupling, wherein the plurality of software modules are dynamically configured at run-time.

Claim 63 (currently amended) A sensor network comprising a plurality of network elements including at least one node configured to be coupled among an environment ~~and at least one~~

~~client computer~~, and wherein ~~functions of~~ the at least one node is further configured to be ~~are~~ remotely controllable ~~and the at least one node~~ and ~~is~~ programmable via internetworking among the plurality of network elements, is further configured to provide ~~wherein the at least one node provides~~ node information including node resource information and message priority to one or more other nodes of the plurality of network elements, and is further configured to distribute ~~wherein~~ data processing, other than processing for topology learning or the addition of one or more new nodes to the sensor network, ~~is distributed~~ in the sensor network in response to the node information.

Claim 64 (canceled)

Claim 65 (original) The sensor network of claim 63, wherein the plurality of network elements comprise a plurality of network element sets, wherein the plurality of network element sets are layered.

Claim 66 (currently amended) The sensor network of claim 63, wherein the plurality of network elements is configured to predistribute code and data ~~are predistributed~~ to at least a portion of the plurality of network elements using low priority messages, wherein the code and the data are downloadable from at least one location selected from a group consisting of storage devices of the plurality of network elements, and storage devices outside the sensor network.

Claim 67 (currently amended) The sensor network of claim 63, wherein the plurality of network elements is configured to automatically organize, and wherein the automatic organizing

comprises automatically controlling data transfer, processing, and storage within the sensor network.

Claim 68 (original) The sensor network of claim 63, wherein a plurality of synchronization levels are supported among different subsets of the plurality of network elements.

Claim 69 (currently amended) The sensor network of claim 63, wherein the at least one node is configured to control data processing ~~is controlled~~ using at least one processing hierarchy, the at least one processing hierarchy controlling at least one function selected from a group consisting of data classifications, data transfers, data queuing, data combining, processing locations, communications among the plurality of network elements.

Claim 70 (currently amended) The sensor network of claim 63, wherein the at least one node includes at least one preprocessor coupled to at least one processor and a plurality of application programming interfaces (APIs), wherein the plurality of APIs ~~are~~ is configured ~~coupled~~ to control at least one device selected from a group consisting of sensors, actuators, communications devices, signal processors, information storage devices, node controllers, and power supply devices, wherein the plurality of APIs are layered.

Claim 71 (currently amended) The sensor network of claim 63, wherein the at least one node is further configured to control ~~controls~~ data processing and data transfer in response to a decision probability of a detected event in the environment.

Claim 72 (currently amended) The sensor network of claim 63, wherein the at least one node is further configured to search, using search and acquisition modes of the at least one node,

~~search~~ for participating ones of the plurality of network elements, wherein a determination is made whether each of the participating ones of the plurality of network elements are permitted to join the sensor network using a message hierarchy, and the at least one node is further configured to survey ~~wherein~~ the sensor network ~~is surveyed~~ at random intervals for new nodes and missing nodes.

Claim 73 (currently amended) The sensor network of claim 63, wherein the sensor network is configured to be managed as a distributed and active database using a distributed resource management protocol, wherein the plurality of network elements are reused among different applications, wherein the network elements are used in multiple classes of applications.

Claim 74 (currently amended) The sensor network of claim 63, wherein ~~data is collected by~~ the at least one node is further configured to collect data and to perform ~~, wherein~~ at least one operation ~~is performed~~ on the data in response to parameters remotely established by a user input, the at least one operation selected from a group consisting of energy detection, routing, processing, storing, and fusing.

Claim 75 (original) The sensor network of claim 74, wherein routing comprises selecting at least one data type for routing, selecting at least one of the plurality of network elements to which to route the selected data, selecting at least one route to the selected at least one of the plurality of network elements, and routing the selected at least one data type to the selected at least one of the plurality of network elements.

Claim 76 (original) The sensor network of claim 74, wherein processing comprises selecting at least one data type for processing, selecting at least one processing type, selecting at least one of the plurality of network elements to perform the selected at least one processing type, and transferring the selected at least one data type to the selected at least one of the plurality of network elements using at least one route through the sensor network.

Claim 77 (original) The sensor network of claim 74, wherein storing comprises selecting at least one data type for storage, selecting at least one storage type, selecting at least one of the plurality of network elements to perform the selected at least one storage type, and transferring the selected at least one data type to the selected at least one of the plurality of network elements using at least one route through the sensor network.

Claim 78 (original) The sensor network of claim 74, wherein fusing comprises a first node transmitting at least one query request to at least one other node, wherein the first node collects data from the at least one other node in response to the at least one query request and processes the collected data.

Claim 79 (original) The sensor network of claim 63, wherein software is transferable among the plurality of network elements, wherein the software transfer is remotely controllable.

Claim 80 (currently amended) A sensor network comprising a plurality of network elements including at least one node configured to be coupled among at least one environment ~~and at least one client computer~~, wherein the plurality of network elements is configured to be ~~are~~ remotely controllable using ~~the~~ at least one client computer, wherein the at least one node is further

configured to provide ~~provides~~ node information including node resource cost and message priority to one or more other nodes of the plurality of network elements in response to at least one parameter of a signal received from the at least one environment, and wherein ~~at least one function of~~ the plurality of network elements is further configured to control at least one function of the plurality of network elements ~~is controlled~~ in response to the node information, and wherein the one or more other nodes are each a member of the sensor network prior to receiving the node information from the at least one node.

Claim 81 (currently amended) The sensor network of claim 80, wherein the plurality of network elements is further configured for remote programming of the at least one parameter ~~is remotely programmed~~ using the at least one client computer.

Claim 82 (previously presented) The sensor network of claim 80, wherein the at least one function includes at least one function selected from a group consisting of programming, configuring, distributing processing among the plurality of network elements, establishing communication paths among the plurality of network elements, selecting at least one mode of communication among the plurality of network elements, distributing data among the plurality of network elements, storing data, organizing at least one subnetwork among the plurality of network elements, controlling synchronization among the plurality of network elements, assembling data products, and reporting.

Claim 83 (currently amended) A sensor network comprising:

means for coupling a plurality of network elements including at least one node among an environment ~~and at least one client computer~~, wherein at least one function of the at least one node is configured for remote control;

means for collecting sensor data from the environment;

~~means for remotely controlling at least one function of the at least one node;~~

means for providing node information from the at least one node to one or more other nodes of the plurality of network elements;

means for distributing processing of the collected sensor data among the plurality of network elements~~, including at least one of the plurality of network elements other than the at least one client computer,~~ in response to the node information; and

wherein the one or more other nodes are each a member of the sensor network prior to receiving the node information from the at least one node.

Claim 84 (currently amended) A sensor network comprising a plurality of network elements including at least one node configured to be coupled among a monitored environment, wherein the at least one node is further configured to provide ~~provides~~ node information to the plurality of network elements [[,]] and to distribute ~~wherein~~ data processing ~~is distributed~~ through the sensor network in response to the node information, and wherein the plurality of network elements is configured to support a plurality of levels of synchronization ~~are supported~~ among different subsets of the plurality of network elements.

Claim 85 (currently amended) A sensor network comprising a plurality of network elements including at least one node configured to be coupled among a monitored environment, wherein the at least one node is further configured to provide ~~provides~~ node information to the plurality of network elements, to ~~wherein~~ distribute data processing ~~is distributed~~ through the sensor network in response to the node information, and to transfer ~~wherein~~ data ~~is transferred~~ using message packets, ~~and~~ wherein the message packets are aggregated into compact forms ~~in the at least one node~~.

Claim 86 (previously presented) The sensor network of claim 84, wherein a first level of synchronization is supported among a first subset of the plurality of network elements, and wherein a second level of synchronization is supported among a second subset of the plurality of network elements.

Claim 87 (previously presented) The sensor network of claim 84, wherein at least one of the plurality of levels of synchronization is energy usage aware.

Claim 88 (previously presented) The sensor network of claim 84, wherein the at least one node is configured to selectively perform low power functions using a first processor and higher power functions using a second processor.

Claim 89 (previously presented) The sensor network of claim 84, wherein the at least one node comprises a first processor to handle acquisition of data from at least one sensor and a second

processor to handle signal processing, and wherein the second processor is configured to cycle into and out of a sleep state.

Claim 90 (previously presented) The sensor network of claim 85, wherein the message packets are aggregated into the compact forms using message aggregation protocols, and wherein the message aggregation protocols are adaptive to at least one feature selected from a group consisting of data type, node density, message priority, and available energy.

Claim 91 (previously presented) The sensor network of claim 85, wherein the message packets include decoy message packets, wherein information to be transferred is impressed on random message packets to limit access to the information to be transferred.

Claim 92 (currently amended) A sensor network comprising a plurality of network elements including at least one node configured to be coupled among a monitored environment, wherein the at least one node includes at least one sensor, and wherein the at least one node is further configured to process data gathered from the monitored environment by the at least one sensor ~~is processed~~ and to propagate a predetermined identifying code representing the gathered data ~~is propagated~~ through the sensor network.

Claim 93 (currently amended) The sensor network of claim 92, wherein the plurality of network elements is configured to represent a high priority message containing information regarding a high priority event ~~is represented~~ by a high priority message code, and wherein receipt of the high priority message code by the at least one node invokes a priority protocol that

causes message packets to be broadcast to nodes adjacent to a path that will inhibit messaging from nodes not engaged in conveying the information regarding the high priority event.

Claim 94 (currently amended) The sensor network of claim 92, wherein the at least one node is further configured to provide ~~provides~~ node information to the plurality of network elements, and wherein the plurality of network elements is configured to distribute data processing ~~is distributed~~ through the sensor network in response to the node information.

Claim 95 (currently amended) A sensor network comprising a plurality of network elements including at least one node configured to be coupled among a monitored environment, wherein the at least one node includes at least one sensor, and wherein the at least one node is further configured to process data gathered from the monitored environment by the at least one sensor ~~is processed~~ to reach a decision at the at least one node [[,]] and to forward a summary message corresponding to the decision ~~is forwarded~~ through the sensor network.

Claim 96 (currently amended) The sensor network of claim 95, wherein the plurality of network elements is configured to store or route ~~storing or routing of~~ the gathered data through the sensor network ~~is performed~~ in response to energy detection at the at least one node.

Claim 97 (currently amended) A network comprising a plurality of network elements including at least one node configured to be coupled among a monitored or controlled environment, wherein:

the at least one node is configured to provide ~~provides~~ node information to the plurality of network elements;

the plurality of network elements is configured to establish at least one redundant information pathway ~~is established~~ among the plurality of network elements;

the plurality of network elements is configured to ~~network~~ automatically re-route ~~re-routes~~ around any node communication failure that occurs when remotely controlling a function of at least one of the plurality of network elements, wherein the node communication failure occurs in one or more nodes that are each a member of the network prior to the node communication failure; and

~~communication between~~ the plurality of network elements is configured for ~~is~~ two-way communication between at least a portion of the plurality of network elements.

Claim 98 (currently amended) The network of claim 97, wherein the at least one node is further configured to collect ~~wherein~~ data ~~is collected by the at least one node~~, and wherein the plurality of network elements is further configured to perform routing of the data in the network ~~is performed~~ in response to energy detection for one or more nodes on potential routes for the routing of the data.

Claim 99 (currently amended) The network of claim 97, wherein the at least one node includes a plurality of application programming interfaces (APIs), wherein the plurality of APIs ~~is~~ ~~are~~ configured ~~coupled~~ to control at least one device selected from a group consisting of sensors, actuators, communications devices, signal processors, information storage devices, node controllers, and power supply devices, and wherein the plurality of APIs is configured to support remote control of the at least one device.

Claim 100 (currently amended) The network of claim 97, wherein the at least one node comprises at least one processor configured to run ~~running~~ real-time node processes and an operating system, ~~and~~ wherein the real-time processes run ~~are running~~ below the operating system.

Claim 101 (currently amended) A network comprising a plurality of network elements including at least one node configured to be coupled among a monitored or controlled environment, to provide ~~wherein the at least one node provides~~ node information to the plurality of network elements, and to predistribute ~~wherein~~ code and data anticipated for future use ~~are predistributed~~ through the sensor network using low priority messages.

Claim 102 (currently amended) The network of claim 101, wherein the plurality of network elements is configured to distribute data processing ~~is distributed~~ through the sensor network in response to the node information.

Claim 103 (currently amended) A sensor network comprising a plurality of network elements including at least one node configured to be coupled among a monitored environment, wherein the at least one node is further configured to provide ~~provides~~ node information to the plurality of network elements [[,]] and to control ~~wherein the at least one node controls~~ data processing and data transmission in response to a decision probability of a detected event.

Claim 104 (currently amended) The sensor network of claim 103, wherein the plurality of network elements is configured to distribute data processing ~~is distributed~~ through the sensor network in response to the node information.

Claim 105 (previously presented) The sensor network of claim 103, wherein the data processing comprises selecting at least one data type for processing, selecting at least one processing type, selecting at least one of the plurality of network elements to perform the selected at least one processing type, and transferring the selected at least one data type to the selected at least one of the plurality of network elements using at least one route through the sensor network.

Claim 106 (currently amended) A network comprising a plurality of network elements including at least one node configured to be coupled among an environment, wherein the at least one node is further configured to provide ~~provides~~ node information to the plurality of network elements, and wherein the plurality of network elements ~~are~~is configured to be self-assembled into a multi-cluster network [[,]] and to select ~~wherein~~ a start node ~~is selected~~ as a base node, ~~and~~ wherein the base node is operable to communicate ~~communicates~~ an assembly packet throughout the network.

Claim 107 (currently amended) The network of claim 106, wherein the plurality of network elements is further configured so that information of the assembly packet alternates between directing a node to become a base node of a particular cluster number and directing a node to become a remote node of a particular cluster number, and wherein the particular cluster number is incrementally changed when the information of the assembly packet so alternates.

Claim 108 (previously presented) The network of claim 107, wherein the alternating of the information of the assembly packet occurs with each successive communication between

directing a node to become a base node of a particular cluster number and directing a node to become a remote node of a particular cluster number.

Claim 109 (currently amended) The network of claim 106, wherein the plurality of network elements is further configured so that the assembly packet is modified by each node as it moves through the network to indicate an action to be performed by the next node to receive the assembly packet.

Claim 110 (currently amended) The network of claim 106, wherein the plurality of network elements is further configured so that the assembly packet is ignored by a node that has previously seen the assembly packet.

Claim 111 (currently amended) The network of claim 106, wherein the plurality of network elements is further configured so that the assembly packet communicates to each node receiving the assembly packet whether such receiving node is a base or a remote and the cluster to which such receiving node belongs.

Claim 112 (currently amended) A sensor network comprising:

a plurality of network elements including at least one node configured to be coupled among a monitored environment ~~and at least one client computer~~, wherein the at least one node is further configured to collect data ~~is collected~~ from the monitored environment, ~~by the at least one node, functions of the at least one node are~~ to be remotely controllable using ~~the~~ at least one client computer, and to provide ~~the at least one node provides~~ information regarding message priority to one or more other nodes of the plurality of network elements; and

wherein the plurality of network elements is configured to distribute data processing on the collected data to one or more of the plurality of network elements~~is distributed through the sensor network, including at least one of the plurality of network elements other than the at least one client computer,~~ in response to the information regarding message priority.

Claim 113 (previously presented) The sensor network of claim 112, wherein the distributed data processing comprises:

routing the collected data of a first data type to a first one of the plurality of network elements; and

routing the collected data of a second data type to a second one of the plurality of network elements.

Claim 114 (previously presented) The sensor network of claim 112, wherein the distributed data processing comprises selecting a processing type, selecting at least one of the plurality of network elements to perform the selected processing type, and transferring at least a portion of the collected data to the selected at least one of the plurality of network elements for processing.

Claim 115 (currently amended) The sensor network of claim 112, wherein the plurality of network elements is further configured to select ~~further comprising selecting~~ at least one storage type for at least a portion of the collected data, to select~~selecting~~ at least one of the plurality of network elements to store data of the at least one storage type, and to transfer ~~transferring~~ the at least a portion of the collected data to the selected at least one of the plurality of network elements.

Claim 116 (previously presented) The sensor network of claim 112, wherein each at least one node comprises:

at least one sensor for collecting the data from the monitored environment;

a preprocessor coupled to receive the collected data from the at least one sensor; and

a processor, coupled to the preprocessor, configured to perform processing associated with the collected data.

Claim 117 (currently amended) The sensor network of claim 112, wherein the plurality of network elements is further configured to predistribute data anticipated for future use ~~is predistributed~~ through the sensor network using low priority messages.

Claim 118 (currently amended) The sensor network of claim 112, wherein:

the plurality of network elements ~~are~~ is further configured to self-assemble into a multi-cluster network, wherein ~~; and~~

~~the self-assembly comprises a base node communicating an assembly packet through the~~ sensor network.